142952

Riverdale Analytical Data Distribution List

Samples: SL03, SL09, SL15, SL16, & SL17 DIOXIN Analysis

Original	RMT Chicago Office File - 4962.01 Technical
Copy 1	Dr. Peter Bibby – Riverdale Chemical Company 220 East 17th Street Chicago Heights, IL 60411
Copy 2	Matt Ohl - USEPA RPM USEPA, Region V 77 West Jackson Blvd. Chicago, IL 60604
Copy 3	Karen Peaceman - USEPA Regional Counsel USEPA, Region V 77 West Jackson Blvd. Chicago, IL 60604
Copy 4	Todd Wiener – McDermott, Will & Emery 227 West Monroe Street Chicago, IL 60606
Copy 5	Dr. Kirsti Sorsa – RMT Madison/Data Review

Quanterra
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916 373-5600 Telephone
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July 25, 2000

QUANTERRA INCORPORATED PROJECT NUMBER: G0G140308
PO/CONTRACT: 4962.01

Rae Mindock
RMT
999 Plaza Drive
Suite 370
Schaumburg, IL 60173

Dear Ms. Mindock,

This report contains the analytical results for the samples received under chain of custody by Quanterra Incorporated on 7/14/00. These samples are associated with your Riverdale Chemical project.

The case narrative is an integral part of this report.

Sincerely,

Kathy Gill

Kathy Gill
Project Manager

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QUANTERRA INCORPORATED PROJECT NUMBER G0G140308

CASE NARRATIVE

QUANTERRA INCORPORATED PROJECT NUMBER G0G140308

Samples were received at 9 and 12 degrees C. Wet ice was present but samples were heavily wrapped in bubble wrap.

SOLID, 2,3,7,8-TCDD, 8280

The associated laboratory control sample had high internal standard recovery of 2,3,7,8-TCDD. All samples associated with the batch are ND for this analyte and thus no corrective action was taken.

There were no other anomalies associated with this project.

Quanterra - Western Region

Quality Control Definitions

QC Parameter	Definition
QC Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Duplicate Control Sample (DCS)	Consist of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects. This QC is performed only if required by client or when insufficient sample is available to perform MS/MSD.
Duplicate Sample (DU)	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Laboratory Control Sample (LCS)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. An LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried through the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank (MB)	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate Spike	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.

Source: Quanterra® Quality Control Program, Policy QA-003, Rev. 0, 8/19/96.

Sample Summary
G0G140308

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
DG99T	1	SL03-4.5FT.	6/28/00	7/14/00 09:50 AM
DG99V	2	SL09-3 FT.	6/28/00	7/14/00 09:50 AM
DG99W	3	SL15-3.0'	7/3/00 10:00 AM	7/14/00 09:50 AM
DG99X	4	SL16-1.0'	7/3/00 10:15 AM	7/14/00 09:50 AM
DG9A0	5	SL17-1.0'	7/3/00 10:20 AM	7/14/00 09:50 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must no be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weigh

Chain of Custody Record

Quanterra

QUA-4124

To: West Sacramento

Client	Project Manager	Date	Chain Of Custody Number
STL-NorthCanton	Amy McCormick	7-13-00	13496
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
4101 Shuffel Dr. N.W.	(330) 966-9787		
City / **State** / **Zip Code**	**Site Contact**		
NorthCanton / OH / 44708			
Project Name	**Carrier/Waybill Number**		
AOG020114			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Analysis: SVOCs
AOG020114-~~001~~ 004	6-28-00	—	solid	60mL	gl	1	none	—	X
-012	6-28-00	—	solid	60mL	gl	1	none	—	

Special Instructions

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Turn Around Time Required
☐ Normal ☒ Rush

QC Level
☐ I. ☐ II. ☐ III.

Project Specific (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Jerry Miller	7-13-00	3:15P	Megan Burnett	7/14/00	1100
2.						
3.						

Comments

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

LOT RECEIPT CHECKLIST

STL Sacramento

Committed to Your Success

CLIENT STL-North Canton PM ____ LOG # 4165

LOT# (QUANTIMS ID) ~~A0G0Z0114~~ and G0G140308 QUOTE# 34411 LOCATION W2A

		Initials	Date
DATE RECEIVED 7/14/00 TIME RECEIVED 0950		NB	7/14/00
DELIVERED BY	☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT		
	☑ AIRBORNE ☐ GOLDENSTATE ☐ DHL		
	☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS		
	☐ QES COURIER ☐ OTHER ____		
CUSTODY SEAL STATUS	☒ INTACT ☐ BROKEN ☐ N/A		
CUSTODY SEAL #(S)	Tape		
SHIPPPING CONTAINER(S)	☐ STL ☐ CLIENT ☐ N/A		
TEMPERTURE RECORD (IN °C)	IR 1 ☐ 2 ☒		
COC #(S)	13496		
TEMPERATURE BLANK			
AMBIENT TEMPERATURE	9°C, 12°C		
pH MEASURED	☐ YES ☐ ANOMALY ☐ N/A	✓	✓
LABELED BY		NB	7/14/00
LABELS CHECKED BY			
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING WETCHEM ☑ N/A		
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL	☑ N/A		
☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES	☐ N/A	✓	✓
☑ Clouseau ☑ TEMPERATURE EXCEEDED (2 °-6 °C)	☐ N/A	NB	7/14/00
☒ WET ICE ☐ BLUE ICE ☐ GEL PACK			
☑ PM NOTIFIED ☐ NO COOLING AGENTS USED			

Notes: samples heavily wrapped in bubble wrap
125 CGJ's at 12°C

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES. QA185 3/00 PAS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA *																				
VOAh *																				
____AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
250AGBna																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
60 CGJ	1	1		+								+								
500CGJ																				
250CGJ																				
125CGJ			1	1	1															
____PB/PJ																				
____PBn/PJn																				
500PB/PJ																				
500PBn/PJn																				
500PBna																				
500PBzn/na																				
250PB																				
250PBn																				
250PBna																				
250PBzn/na																				
____"CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

SOLID, 2,3,7,8-TCDD, 8280

RMT

Client Sample ID: SL03-4.5FT.

Trace Level Organic Compounds

Lot-Sample #...: G0G140308-001 **Work Order #...:** DG99T101 **Matrix.....:** SOLID
Date Sampled...: 06/28/00 **Date Received..:** 07/14/00
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1
% Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.020	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 120)

RMT

Client Sample ID: SL09-3 FT.

Trace Level Organic Compounds

Lot-Sample #...: G0G140308-002 **Work Order #...:** DG99V101 **Matrix.....:** SOLID
Date Sampled...: 06/28/00 **Date Received..:** 07/14/00
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1
% Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.059	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 120)

RMT

Client Sample ID: SL15-3.0'

Trace Level Organic Compounds

Lot-Sample #...: G0G140308-003 **Work Order #...:** DG99W101 **Matrix.....:** SOLID
Date Sampled...: 07/03/00 10:00 **Date Received..:** 07/14/00
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1
% Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.026	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	(40 - 120)

RMT

Client Sample ID: SL16-1.0'

Trace Level Organic Compounds

Lot-Sample #...: G0G140308-004 **Work Order #...:** DG99X101 **Matrix.....:** SOLID
Date Sampled...: 07/03/00 10:15 **Date Received..:** 07/14/00
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1
% Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.014	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(40 - 120)

RMT

Client Sample ID: SL17-1.0'

Trace Level Organic Compounds

Lot-Sample #...: G0G140308-005 **Work Order #...:** DG9A0101 **Matrix.....:** SOLID
Date Sampled...: 07/03/00 10:20 **Date Received..:** 07/14/00
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1
% Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.011	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(40 - 120)

QC DATA ASSOCIATION SUMMARY

G0G140308

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8280		0200507	
002	SOLID	SW846 8280		0200507	
003	SOLID	SW846 8280		0200507	
004	SOLID	SW846 8280		0200507	
005	SOLID	SW846 8280		0200507	

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G0G140308 **Work Order #...:** DGEL6101 **Matrix.....:** SOLID
MB Lot-Sample #: G0G180000-507

Prep Date.....: 07/17/00
Analysis Date..: 07/19/00 **Prep Batch #...:** 0200507
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.015	ng/g	SW846 8280

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G0G140308 **Work Order #...:** DGEL6102 **Matrix.....:** SOLID
LCS Lot-Sample#: G0G180000-507
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	**2.5**	**2.9 a**	**ng/g**	**116**	**SW846 8280**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G0G140308 **Work Order #...:** DGEL6102 **Matrix.....:** SOLID
LCS Lot-Sample#: G0G180000-507
Prep Date.....: 07/17/00 **Analysis Date..:** 07/19/00
Prep Batch #...: 0200507
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**116 a**	**(70 - 115)**	**SW846 8280**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.